

WHAT IS CLAIMED IS

1. A system for desalinating and purifying seawater to become drinkable water and devices thereof, the system and the devices comprising:

a bottom layer having

a heating unit with a base comprising a heating chamber with a bottom and an inner wall made of thermal-conductive and anti-corrosive material, at least one heater accommodated inside the heating chamber, at least one stem heater accommodated inside the heating chamber above the at least one heater, an impurity depositing area defined in the bottom of the heating chamber, an impurity outlet communicating with the impurity depositing area, a water inlet communicating with the heating chamber, and an waste water outlet communicating with the heating chamber above the impurity depositing area, wherein the at least one heater is connected to the base of the heating unit and adapted to receive thermal energy from a heating device; and

a desalinating cracking unit mounted over the heating unit to crack the seawater and generate steam and comprising a containing chamber with an inner wall made of thermal-conductive and anti-corrosive material, a dissociating reducing device accommodated inside the containing chamber;

a top layer detachably mounted on the bottom layer and having

a purifying distilling unit communicated with the desalinating cracking unit and comprising multiple distillatories, wherein each distillatory has multiple manifolds to compact with the steam to cause physically conducting effect so that the steam is sieved to allow only tiniest steam with tiny element in the water molecules to pass through the purifying distilling unit and residual steam is

1 conducted back to the desalinating cracking unit; and
2 an outer cooling assembly connected to the top layer to receive the tiniest steam
3 from the purifying distilling unit and having
4 a cooling unit comprising at least one cooling column to condense the
5 tiniest steam to become condensing water; and
6 a deodorizing system communicating with the at least one cooling column
7 to deodorize the condensing water and to remove chlorides from the condensing water to
8 achieve drinkable water;
9 wherein, the heating unit and the desalinating cracking unit communicate with
10 each other to achieve a cyclically and repeatedly desalinating process and the
11 desalinating cracking unit and the purifying distilling unit also communicate with each
12 other to achieve a cyclically and repeatedly purifying process to desalinate, purify and
13 reform the seawater to generate the drinkable water.

14 2. The system and the devices as claimed in claim 1, wherein the at least one
15 heater in the heating unit comprises multiple stainless steel tubes evenly arranged in a
16 circle.

17 3. The system and the devices as claimed in claim 1, wherein the water inlet in
18 the heating system is further connected to a filtering device to filter the seawater before
19 the seawater is introduced into the system.

20 4. The system and the devices as claimed in claim 1, wherein the water inlet in
21 the heating system is further connected to a detergent supplier to input detergent to clean
22 the system.

23 5. The system and the devices as claimed in claim 4, wherein the detergent is
24 nontoxic citric acid.

1 6. The system and the devices as claimed in claim 1, wherein the water inlet in
2 the heating system conducts the seawater from the ocean by pump.

3 7. The system and the devices as claimed in claim 3, wherein the filtering device
4 filters the seawater to remove particles in the seawater before the seawater is introduced
5 into the system.

6 8. The system and the devices as claimed in claim 1, wherein the at least one
7 steam heater reheats the seawater to boil and drives the seawater to vortically rotate.

8 9. The system and devices as claimed in claim 1, wherein the at least one steam
9 heater is a cone object made of multiple circular steam pipes.

10 10. The system and the devices as claimed in claim 9, wherein the at least one
11 steam heater further comprises an outer steam pipe surrounding around and connecting
12 with the cone object.

13 11. The system and the devices as claimed in claim 10, wherein multiple
14 obliquely gas-nozzles are attached on the outer steam pipe.

15 12. The system and the devices as claimed in claim 10, wherein the outer steam
16 pipe has two ends and at least one steam inlet attached to one end of the outer steam pipe.

17 13. The system and the devices as claimed in claim 12, wherein at least one
18 waste gas exhaust is attached to the other end of the outer steam pipe.

19 14. The system and the devices as claimed in claim 12, wherein the at least one
20 steam inlet introduces steam into the heating chamber to heat the seawater.

21 15. The system and the devices as claimed in claim 9, wherein multiple
22 obliquely gas-nozzles are respectively attached on the multiple circular steam pipes.

23 16. The system and the devices as claimed in claim 9, wherein the cone object of
24 the at least one steam heater caps over the heater.

1 17. The system and the device as claimed in claim 1, wherein the dissociating
2 reducing device in the desalinating cracking unit impacts with boiling seawater to cause
3 a vibrating and cracking reaction to dissociate the elements in the seawater.

4 18. The system and the devices as claimed in claim 1, wherein the dissociating
5 reducing device is made of ceramics.

6 19. The system and the devices as claimed in claim 1, wherein the dissociating
7 reducing device is in shape of cylinder.

8 20. The system and the devices as claimed in claim 1, wherein the dissociating
9 reducing device is designed for a boiler.

10 21. The system and the devices as claimed in claim 1, wherein the dissociating
11 reducing device comprises multiple cracking layers.

12 22. The system and the devices as claimed in claim 21, wherein each cracking
13 layer has multiple manifolds.

14 23. The system and the devices as claimed in claim 22, wherein the dissociating
15 reducing device has a top plate and a bottom plate both made of stainless steel to clamp
16 the multiple cracking layers between the top plate and the bottom plate.

17 24. The system and the devices as claimed in claim 23, wherein multiple round
18 holes are respectively defined through the top plate and the bottom plate.

19 25. The system and the devices as claimed in claim 1, wherein each distillatory
20 is made of ceramics.

21 26. The system and the devices as claimed in claim 1, wherein each distillatory
22 is dome-shaped and has a top convex surface and a bottom concave surface.

23 27. The system and the devices as claimed in claim 1, wherein each cooling
24 column comprises at least one cooler.

1 28. The system and devices as claimed in claim 27, wherein the outer cooling
2 assembly further has a water chamber with a top and a bottom to accommodate the at
3 least one cooling column.

4 29. The system and the devices as claimed in claim 28, wherein a water outlet
5 communicates with the water chamber near the top of the water chamber.

6 30. The system and the devices as claimed in claim 28, wherein a water inlet
7 communicates with the water chamber near the bottom of the water chamber.

8 31. The system and the devices as claimed in claim 28, wherein the top layer and
9 the bottom layer are detachably and air-tightly engaged by means of engaging rings.

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